DMS - 101

A COMPARISON OF OBSOLESCENCE SOLUTIONS

LEE MATHIESEN
OPERATIONS MANAGER
LANSDALE SEMICONDUCTOR, INC.
602-438-0123 – Phone
lee@lansdale.com
602-438-0138 – Fax
www.lansdale.com

DMS SOLUTIONS

- ⇨ **End of life buy**
- ⇨ **Bridge buy**
- ⇨ **Excess inventory distributor**
- ⇨ **Alternate part**
- ⇨ **Upscreening/Uprating of commercial parts**

LANSDALE

DMS SOLUTIONS (cont.)

- ⇨ **Aftermarket manufacturing**
- ⇨ **Reverse engineering**
- ⇨ **Redesign of system**
- ⇨ **Emulation**

This presentation will try to evaluate the pros and cons of each solution.

End of Life (LOT Buys)

PRO'S ⇨ **Usually least costly**

⇨ **Quickest solution to immediate problem**

⇨ **Easiest to implement**

CON'S ⇨ **Old technology used during support life**

⇨ **Exact quantities of parts needed are difficult to estimate (Murphy's Law)**

⇨ **Provides no guarantee of lifetime support**

⇨ **Sufficient time to make buy may**

BRIDGE BUY

PRO'S ⇨ **Usually least costly product**

⇨ **Quickest solution**

⇨ **Easiest to implement**

CON'S ⇨ **Old technology until technology refresh**

⇨ **Exact quantities of parts needed difficult to estimate**

⇨ **Sufficient time to make buy may not exist**

⇨ **Tech refresh may be delayed**

Excess Inventory Distributor

PROS

- ⇨ **Low Cost**
- ⇨ **Quick Delivery**

CONS

- ⇨ **Quality – Buyer Beware**
- ⇨ **Limited Quantity**

ALTERNATE PART

PRO'S ⇨ **Keeps the system operational**

⇨ **Newer technology used**

CON'S ⇨ **Documentation changes**

⇨ **Possible Reliability risk in system**

⇨ **Requalification may be required**

⇨ **New part may be at risk of obsolescence**

UPSCREENING/UPRATING

PRO'S ⇨ **Lower unit cost**

⇨ **Keeps system operational**

⇨ **Newer technology used**

UPSCREENING/UPRATING

CON'S ⇨ Voids the manufacturer's warranty

⇨ Possible shortened life of part

⇨ Documentation changes

⇨ Requalification of system may be required

⇨ Additional test costs

⇨ Part still at risk of becoming obsolete

Aftermarket Manufacturin

PROS

- ⇨ **ISO 9002 Certified**
- ⇨ **QML MIL-PRF-38535 Certified**
- ⇨ **Continuous & complete production semiconductor manufacturing**
- ⇨ **Original part -- system requalification unnecessary**

CONS

- ⇨ **Lead times**
- ⇨ **Minimum buy quantities**
- ⇨ **Higher price than original manufacturer**

REVERSE ENGINEERING

PROS ⇨ **Duplicate of original part**

⇨ **Very successful in recreating older products.**

CONS ⇨ **Nearly impossible on newer products**

⇨ **High cost - NRE charges**

⇨ **Long process**

Redesign

PROS ⇨ **New/current technology can be used**

⇨ **Keeps system operational**

CONS ⇨ **Usually high cost**

⇨ **Configuration changes impact manuals**

⇨ **Potential performance problem**

⇨ **Long lead time for implementation**

⇨ **Potential system requalification**

Emulation

PROS

- ⇨ **Possible quick turn-around**
- ⇨ **Part MAY be duplicate of original**

CONS

- ⇨ **High cost – NRE charges**
- ⇨ **Different technology**
- ⇨ **Parts are NOT duplicates of originals**
- ⇨ **May need military requalification**
- ⇨ **Possible reliability risk**
- ⇨ **Long process**
- ⇨ **Configuration control**

CONCLUSIONS

- There are many tools to mitigate obsolescence
- Not all of these tools are equal
- Tradeoff's in cost, time, performance, reliability
- The program office must evaluate the tradeoff's and determine if cost/ leadtime for parts is more important than system performance and reliability
- Configuration Control of system is at risk